

Title (en)
Tunable electrorheological fluid mount.

Title (de)
Steuerbares Lager mit elektrorheologischer Flüssigkeit.

Title (fr)
Support réglable à fluide électro-rhéologique.

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EP 0257932 A2 19880302 (EN)

Application
EP 87307186 A 19870814

Priority
US 89726286 A 19860818

Abstract (en)
A mount (10) has variable volume fluid chambers (18, 28) interconnected by fluid passageways (30, 32) and containing electrorheological fluid. Valves (36) are arranged in series with a plurality of the passageways. Each valve (36) has a flow area greater than that of the passageway (32) in series therewith. Energization of a valve (36) generates an electrical field effective to so increase the apparent viscosity of the fluid within the valve (36) as to prevent fluid flow through the passageway (32) in series with it. Selective energization of the valves (36), by suitable control means (46, 56) associated therewith, varies the frequencies at which fluid inertia forces cause the mount (10) to undergo abrupt changes in dynamic stiffness. The valves (36) may be located upon opposite sides of a central mount section (12) through which the chamber connecting passages extend. Electrode elements (40) of the valves (36) are preferably so shaped as to minimize fluid drag and electrical concentration. In one embodiment the passageways (32) all communicate at one end with a common variable volume chamber (18), while communicating at their opposite ends with respective ones of a plurality of different chambers (70, 72, 74, 76 and 78).

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